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It is too soon to say what gain to our knowledge of cometary structure will result from this unexpected visitor. The observations made here up to the present time indicate that we shall learn far more from the spectrograms than from the direct photographs, for the comet seems to be of the quiescent type and has not yet shown any of the rapid and abrupt changes in form that made Comet Morehouse so interesting. The spectrograms obtained have as yet received only a preliminary examination, so that definite statements of results cannot be made, but in a general way it may be said that while the comet was very close to the Sun the sodium D lines were very bright, fading out as its distance from the Sun increased, while the hydro-carbon bands became relatively more intense. In these respects the comet's behavior resembled that of the great comet of 1882.

An orbit was computed by Dr. KOBOLD, of Kiel, Germany, from observations on the 17th, 18th, and 19th of January, but it does not represent the comet's subsequent motion satisfactorily.[1]

That the comet has excited unusual attention is evident not only from the many press items relating to it, but also from the number of letters about it that have been received at this observatory. This is natural enough, for it is the only brilliant one that has been seen in our skies since 1882, and public interest in these bodies has been aroused by the return of Halley's Comet, with which the new one has been confused by many.

It may be added that no better opportunity for preliminary training for the observations to be made on Halley's Comet in the spring could be desired than has been afforded by this comet.

R. G. AITKEN.

February 3, 1910.

COMET *a* 1910.

A series of twenty plates has been taken on Comet *a* 1910 with the Crocker photographic doublet by PAUL W. MERRILL and CHAS. P. OLIVIER. The lenses both have an aperture of six inches and focal lengths of 30.8 inches and 32.6 inches, respectively. The following table gives the main points of interest found in a preliminary examination of the plates:—

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[1] This is also true of two orbits received later.

				Tail.	
Plate.	Date. 1910.	Exposure.	Nucleus.	Length.	Remarks.
1	Jan. 26	3^m	Sharp	4°	Trifurcated
2	26	5	Not very sharp	4	Trifurcated
3	26	3	Fair	6 +	Trifurcated
4	26	10	Not on plate	14	Great fork 13° ± from nucleus
β 7	27	11	Elongated N. & S.	8	Trifurcated
δ 8	27	7	Elongated N. & S.	3	
ε 9	27	5	Elongated N. & S.	9 +	
ζ 10	27	21	Not on plate	14 +	Great fork shows plainly
α 11	28	5½	Strong, round	5	Southern branch relatively stronger
γ 13	29	6	Fair, round	3	
δ 15	29	10	Not on plate	11	Shows general curves well
α 16	29	40	Not on plate	14	Great fork shows plainly
α 17	30	17	Slightly elongated	2	Faint
γ 18	30	9	Good	2 +	Faint
δ 20	30	34	Not on plate	Tail barely visible; sky not very clear	

NOTE.—All the above plates were Lumière Σ except 1, β 7, and α 17, which were Seed 27.

All the exposures on the comet proper had to be made between early twilight and $6^h\ 35^m$ ± P. S. T., because the comet then set behind the main buildings as seen from the Crocker dome. This was most unfortunate, for we were obliged to lose at least fifteen minutes of the best time for exposure. However, in spite of twilight and short exposures, the plates show quite an amount of detail, and a careful study of them will give a good idea of the changes which took place during the interval covered. Those mentioned above in which the nucleus was not on the plate were obtained by guiding on some star in or near the tail. These plates show the general outlines well. Narrow, sharp streamers and bright knots or condensations nowhere appear.

PAUL W. MERRILL,
CHAS. P. OLIVIER.

MOUNT HAMILTON, CAL.

COMET *a* 1910.

Photographs of the head and inner portions of the tail of Comet *a* 1910 were made with the Crossley reflector on February 1st, 2d, and 5th. Of these, that of February 1st is much the strongest. The head proper is very bright, round, without apparent nucleus, and slightly over one minute of arc in diameter. Numerous streamers radiate from this head, but no knots or condensations are shown. The plate of February 5th shows evidences of a nucleus of stellar character. The resulting positions on the three dates are:—

	Mt. H. M. T.	Exp.	Apparent.	
			α	δ
Feb. 1,	$6^h\ 39^m\ 25^s$	13^m	$21^h\ 38^m\ 51^s.01$	$+3^\circ\ 19'\ 29''.0$
2,	6 33 25	29	21 40 58 .54	+3 56 57 .8
5,	6 38 25	23	21 46 40 .73	+5 34 54 .1

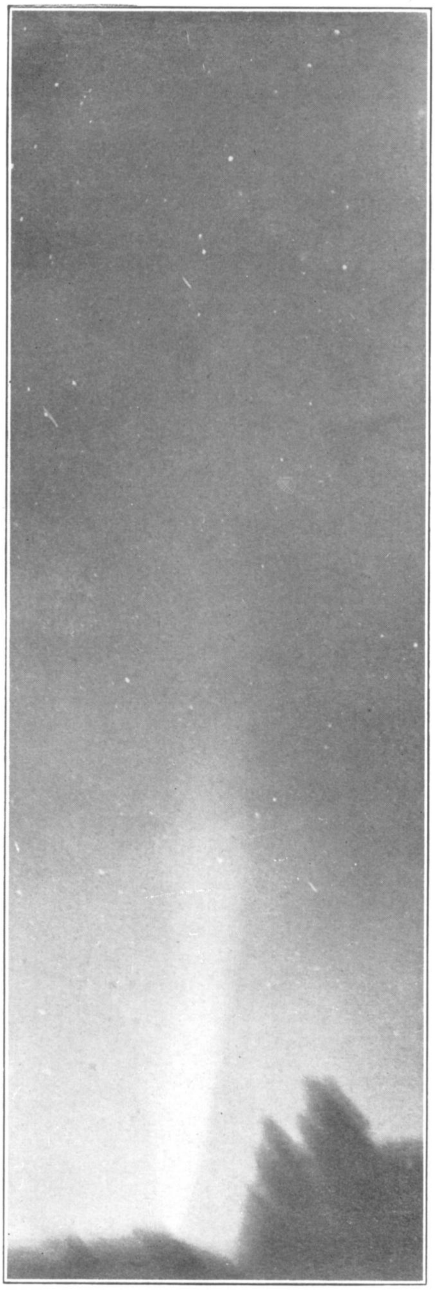
H. D. CURTIS.

HALLEY'S COMET.

Halley's Comet continues to increase in brightness, though not so rapidly as during November and the first part of December. A photograph taken by Mr. OLIVIER on January 28th with an exposure of 54^m with the Crocker photographic telescope shows a narrow tail which can be traced about one degree from the head. Photographs taken with the Crossley reflector on February 4th and 5th show the inner portion of the tail as a narrow, fairly sharply defined cone. The nucleus is stellar, very sharp, and well defined, less than five seconds of arc in diameter.

A two-hour exposure made with the Crossley reflector on February 10th shows an entirely different form of tail, due doubtless to a sudden outburst of activity. The narrow, quiescent cone of February 4th and 5th has disappeared and given place to a tail made up of several fine streamers radiating from the head. These streamers can be traced fully 20′ from the head; the two longest streamers are straight, while the most southerly one is slightly curved. The Willard lens and Crocker telescope negatives for the same date show these changes as well, though less distinctly, owing to the smaller scale, and the tail is recorded for a distance of about 40′ from the head.

H. D. CURTIS.



Comet *a* 1910. Negative by Merrill and Olivier of Lick Observatory. 1910 January 27. Exposure $6^h\,31^m$ to $6^h\,31^m\,5^s$ P. S. T.